

14. (Amended) The expression vector of claim 2, wherein said secreted chemokine binds to a chemokine receptor.

15. (Amended) The expression vector of claim 14, wherein one or more amino acids are deleted from the N-terminus of the secreted chemokine.

C2  
C24  
16. (Amended) The expression vector of claim 1, wherein said intracellular retention signal sequence directs a protein expressed from said single intrakine transcript to the endoplasmic reticulum, Golgi apparatus, a lysosome, an intracellular vesicle or other cellular compartment.

17. (Amended) A method of inhibiting phenotypic expression of a chemokine receptor in a cell, wherein the method comprises blocking cell surface expression of said chemokine receptor by binding of said chemokine receptor with an intrakine.

C3  
23. (Amended) A method of inhibiting HIV infection of a cell, said method comprising phenotypically knocking out an HIV co-receptor in said cell by binding of said HIV co-receptor with an intrakine, wherein said phenotypic knock-out of said HIV co-receptor in said cell inhibits infection of said cell.

24. (Amended) The method of claim 23, wherein said co-receptor is a C-C chemokine 5 receptor, a C-C chemokine 3 receptor, a C-C chemokine 1 receptor or a CXR4 receptor.

C4  
33. (Amended) The method of claim 29, wherein said CC receptor is a C-C chemokine 5 receptor (CCR5), a C-C chemokine 3 receptor (CCR3), or a C-C chemokine 1 receptor (CCR1).

SUB  
DH  
C5  
35. (Amended) An expression vector for treatment of an HIV infection in a subject, wherein said expression vector includes:  
an expression region which comprises:

SUB  
DH  
CONT  
15  
CONT

a promoter;  
an intracellular retention signal sequence encoding region; and  
a chemokine encoding gene;  
wherein said intracellular retention signal sequence and said chemokine encoding gene are expressed as a single intrakine transcript from said promoter; and  
wherein when said expression vector is administered to lymphocytes, monocytes, macrophages or stem cells of said subject said cells exhibit a phenotypic knock out of an HIV co-receptor.

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C6

38. (Amended) A composition comprising the expression vector of claim 35 and a pharmaceutically acceptable solution.

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39. (Amended) A method of increasing white blood cell count in a subject with an HIV infection comprising administering to said subject a pharmaceutical composition comprising lymphocytes, monocytes, macrophages or stem cells transduced with a vector of claim 1, thereby increasing white blood cell count in said subject with an HIV infection.

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Please cancel claims 25-28 and 30-32, without prejudice to the inclusion of the subject matter contained therein in any later filed continuation or divisional application(s).

#### **REMARKS**

The present invention relates to novel methods and compositions for the treatment of HIV infection and for methods of conferring HIV resistance. The invention discloses, *inter alia*, methods of inhibiting HIV co-receptor cell surface expression using intracellular retained cytokines, *i.e.*, "intrakines," to bind to the receptors intracellularly and prevent transport of the receptors to the cell surface. The invention further relates to inhibiting HIV-1 infection using intrakines and secreted chemokines to competitively inhibit HIV-1 from binding with a co-receptor.

Claims 1-24, 29, and 33-39, are pending in the application. A copy of these claims as pending following the entry of the instant Amendment is enclosed herewith for the Examiner's convenience. Claims 25-28 and 30-32 have been cancelled herein without prejudice.